

Safety Regulations

ALL EXCAVATION AND METHODS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MARYLAND OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (MOSHA) STANDARDS AS SET FORTH IN THE LATEST VERSION OF THE CODE OF MARYLAND REGULATIONS

Construction Notification

The Contractor/Owner is to notify the _____ County _____ SOIL CONSERVATION DISTRICT at least 72 hours prior to construction to facilitate any scheduling, layout, or preliminary mobilization necessary to ensure proper construction inspection to enable appropriate certification of the project.

It is the Landowner's responsibility to obtain all County, State, and Federal permits that may be needed, and to maintain this structure and related regulations.

THERE WILL BE NO CHANGES IN SPECIFICATION, DIMENSIONS, OR MATERIALS UNLESS APPROVED BY THE ENGINEER RESPONSIBLE FOR THIS DRAWING. THE DRAWINGS ARE PREPARED COOPERATIVELY BY THE NATURAL RESOURCE CONSERVATION SERVICE FOR THE NAMED LANDOWNER.

CONSTRUCTION FOUND NOT IN ACCORDANCE WITH THESE DRAWINGS AND SPECIFICATIONS SHALL VIOLATE THE COOPERATIVE AGREEMENT AND ALL DRAWINGS, SPECIFICATIONS, AND QUANTITIES ESTIMATE SHALL IMMEDIATELY BE RETURNED TO THE LOCAL NRCS OFFICE.



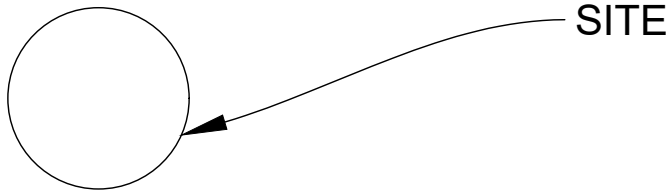
Know what's below.
Call before you dig.

"The Soil Conservation District makes no representation as to the existence or Non-existence of any utilities at the construction site. Shown on these construction drawings are those utilities which have been identified. It is the responsibility of the landowners or operators and contractors to assure themselves that no hazard exists or damage will occur to utilities"

General Notes:

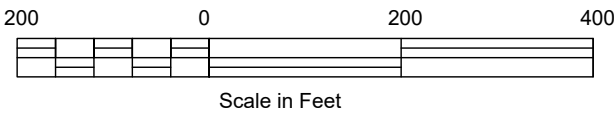
- PLEASE CONTACT THE SOIL CONSERVATION DISTRICT AT LEAST 3 DAYS PRIOR TO CONSTRUCTION TO ARRANGE A PRE-CONSTRUCTION MEETING
- A CONSERVATION TECHNICIAN SHALL SET CUT/GRADE STAKES AT THE CONTRACTORS REQUEST
- A CONSERVATION TECHNICIAN MUST BE PRESENT AT THE TIME OF PIPE INSTALLATION, IF REQUIRED
- A CONSERVATION TECHNICIAN MUST BE PRESENT AT THE TIME OF THE CARBON SOURCE INSTALLATION

LANDOWNER - SITE NAME
605 BIOREACTOR



REVISED 4/1/2019

LOCATION MAP



User to enter sheet names

SHEET	TITLE
2.....	Topo survey/Plan view/Cross sections
3.....	Details

AS-BUILT STATEMENT

THE CONSERVATION PRACTICE(S) MEETS OR EXCEEDS NRCS STANDARDS AND SPECIFICATIONS

INSPECTED BY _____ SIGNATURE _____ DATE _____

CONSTRUCTION APPROVAL _____ SIGNATURE _____ DATE _____

VERIFIED DISTRICT CONSERVATIONIST _____ SIGNATURE _____ DATE _____

AS BUILT CONTRACT ITEMS:

PRACTICE	Reportable Amount	Contract Amount
747 Denitrifying Bioreactor		
587 Structure for Water Control		
606 Subsurface Drainage		

User to enter practices

OWNER/CONTRACTOR STATEMENT

I CERTIFY THAT THIS DESIGN HAS BEEN EXPLAINED TO ME BY A REPRESENTATIVE OF THE COUNTY SOIL CONSERVATION DISTRICT, AND I UNDERSTAND THE CONTENTS, ALL CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS, I FURTHER UNDERSTAND THAT ALL CONSTRUCTION WILL BE UNDER THE INSPECTION OF THIS OFFICE.

OWNER/OPERATOR SIGNATURE _____ DATE _____

CONTRACTOR'S SIGNATURE _____ DATE _____

All disturbed areas to be stabilized within 7 days of completion, using the following recommendations.

Seeding Recommendations

Tall Fescue	65 lb/ac
Perennial Ryegrass or Redtop (tolerates moist sites)	5 lb/ac
White Clover	5 lb/ac
20-40-40 Fertilizer	500 lb/ac
Ground lime 50% oxides	3 tons /ac
Straw Mulch	2 tons/ac

Dates listed are for plant hardiness Zone 6B, dates will need to be changed for other zones.

Seeding Dates
March 1 thru May 15
August 1 thru October 1

It is the landowner responsibility to obtain All County, State, and Federal permits that may be needed, and to maintain this structure and those regulations.

User to enter seeding info

MATERIALS LIST

* For bidding purposes only

LANDOWNER - SITE NAME

605 BIOREACTOR

COUNTY Soil Conservation District

JOB CLASS #

TRACT #

United States
Department of
Agriculture



Natural Resources
Conservation Service

File Name

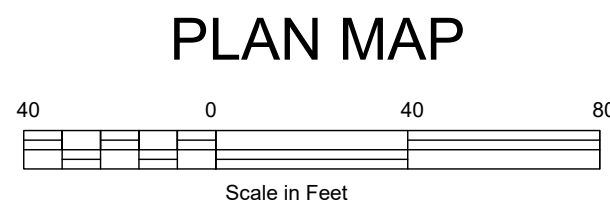
MD_0041_BIOREACTOR.dwg

Drawing No.
MD_0041

Sheet 1 of 3

Date	_____
Designed	_____
Drawn	_____
Checked	_____
Approved	_____

_____, Maryland



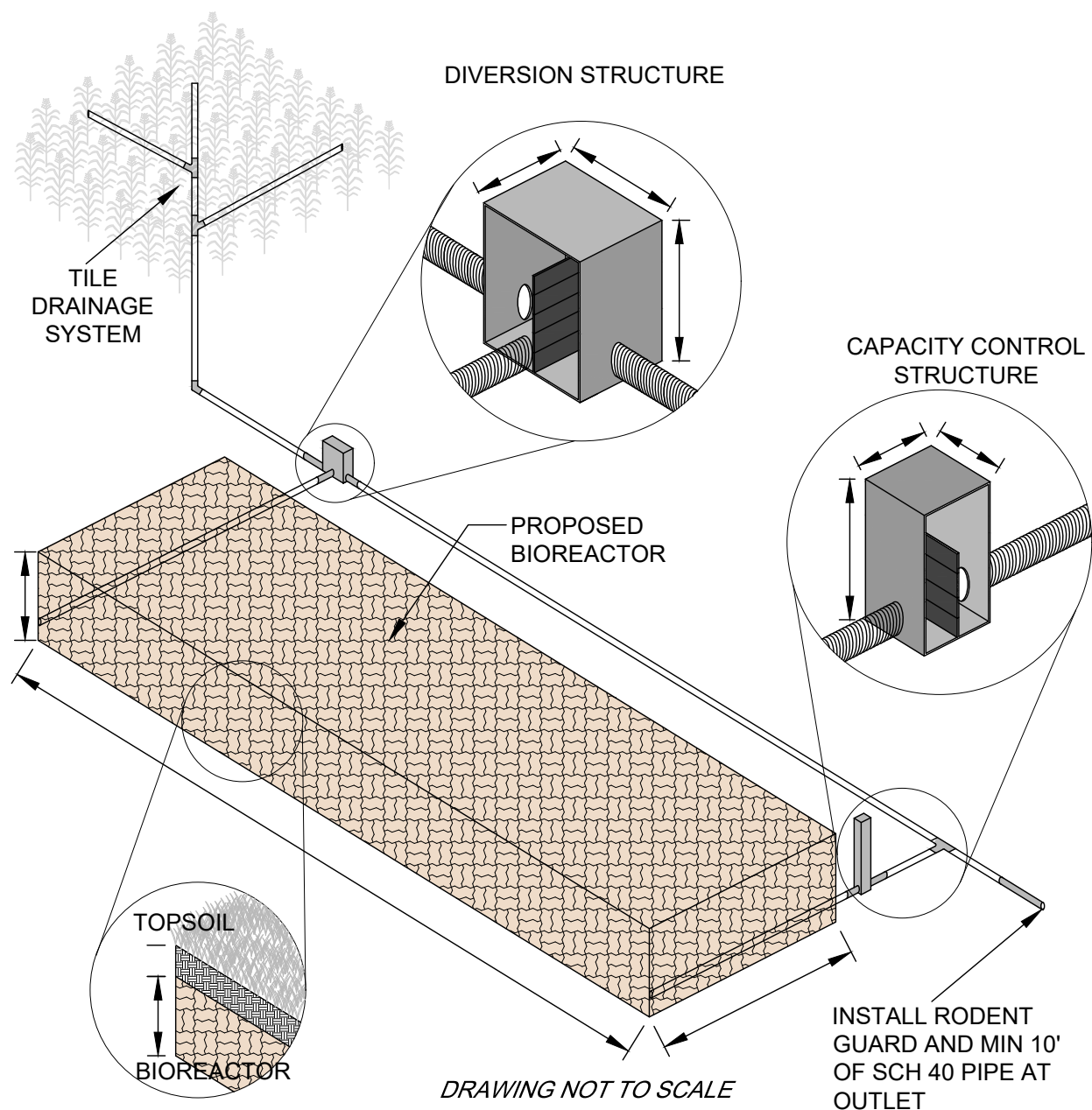
CROSS SECTION

PROFILE

File Name MD_0041_BIOREACTOR.dwg	
Drawing No. MD_0041	
Sheet 2 of 3	



United States Department of Agriculture	TRACT #	LANDOWNER - SITE NAME 605 BIOREACTOR COUNTY Soil Conservation District	Designed _____ Drawn _____ Checked _____ Approved _____	Date _____ _____ _____ _____ _____



Notes:

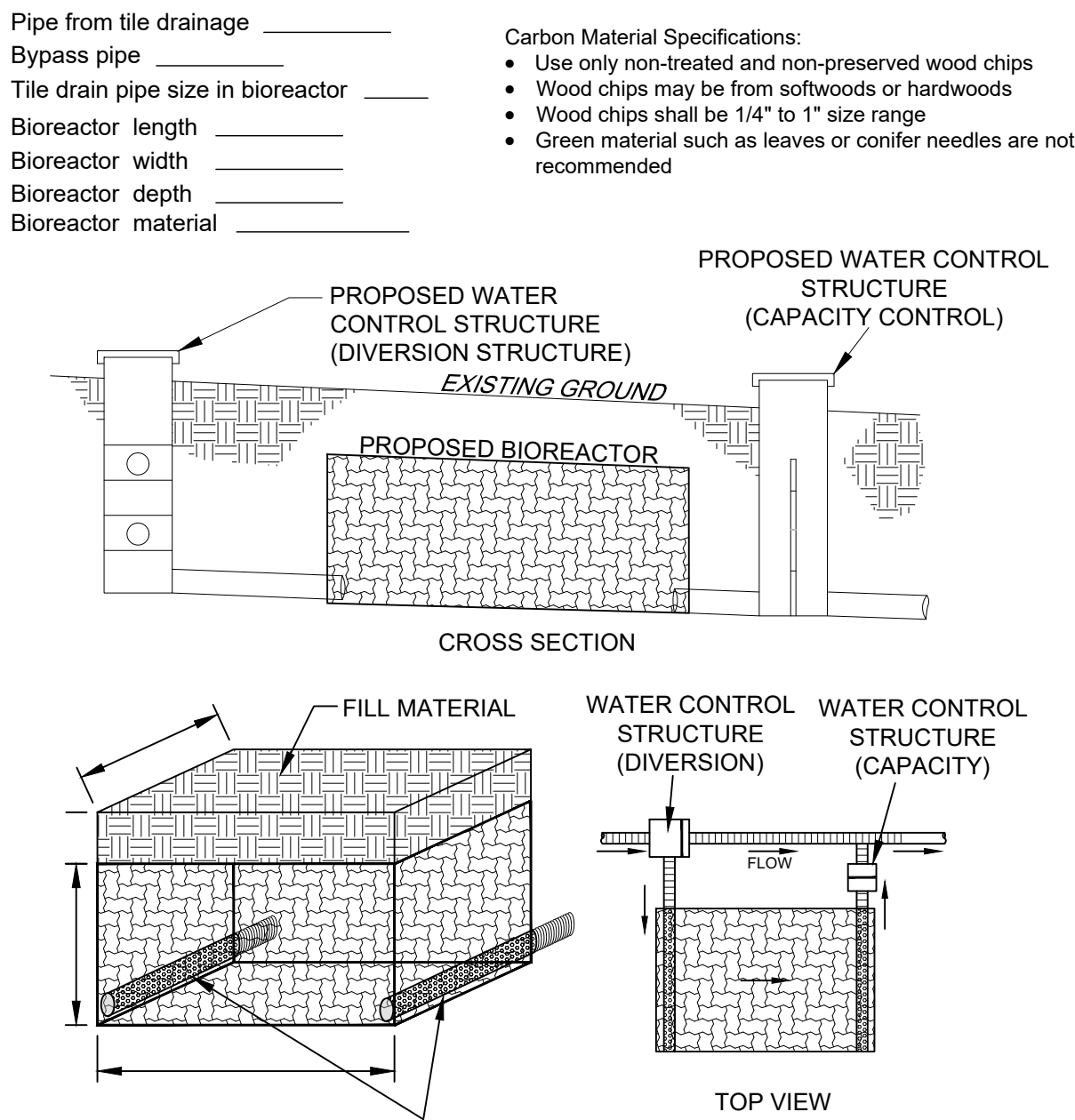
- 1) Dimensions vary with the drainage area.
- 2) Medium for carbon source shall be free from soil, fines and other contaminants.
- 3) Inert materials such as gravel may be mixed with the carbon source to provide the required bioreactor volume and flow rate along with the required amount of reactive carbon.
- 4) Use min 20 ml poly lining for the bottom and sides. Use geotextile material for the top of the bioreactor based on the soils and geology of the site.
- 5) For safety and to prevent compaction, the bioreactor must be identified using signage or fence.

Carbon Material Specifications:

- Use only non-treated and non-preserved wood chips
- Wood chips may be from softwoods or hardwoods
- Wood chips shall be 1/4" to 1" size range
- Green material such as leaves or conifer needles are not recommended

BIOREACTOR DETAIL

USER TO CLICK ON BLOCK AND ENTER INFORMATION

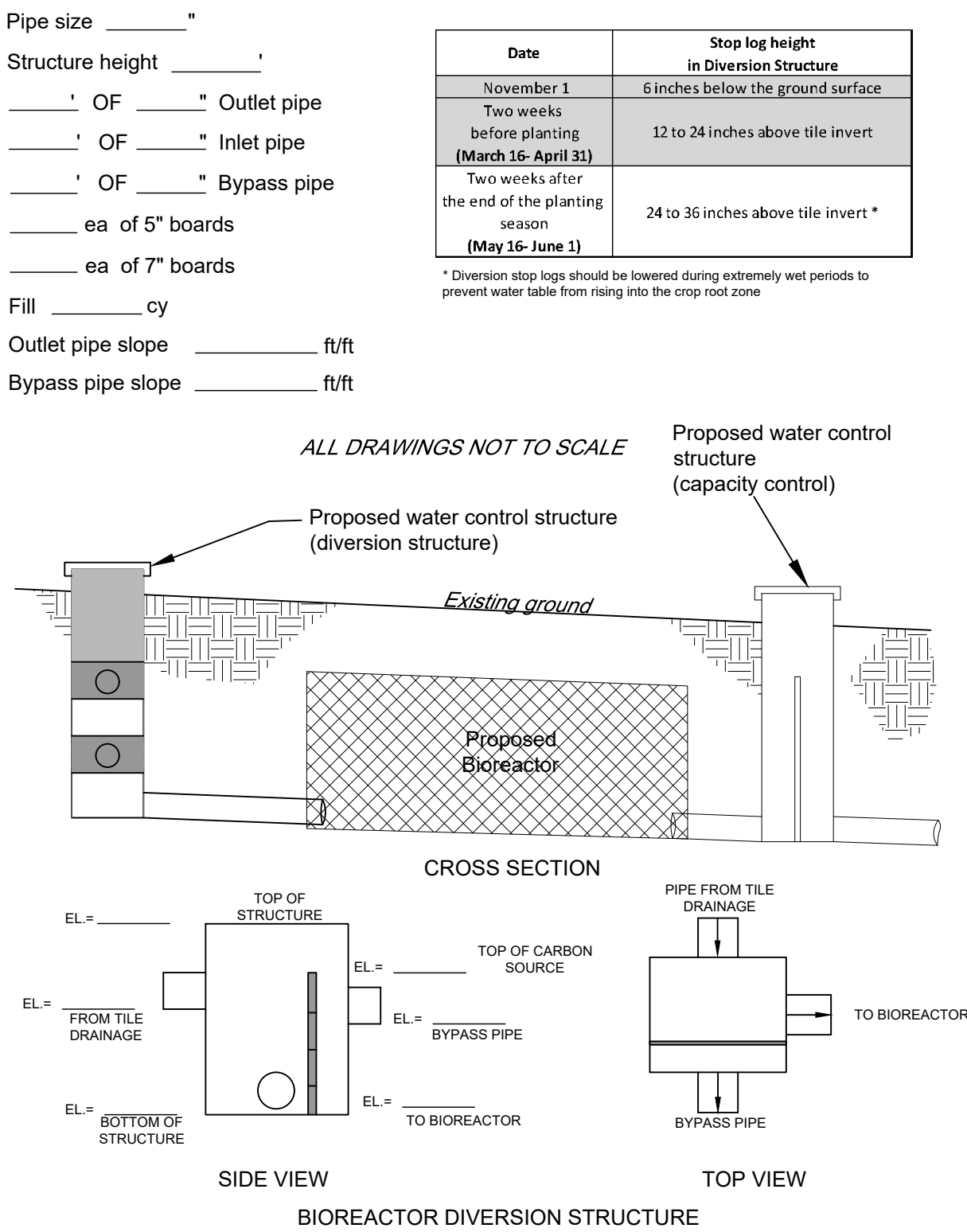


Notes:

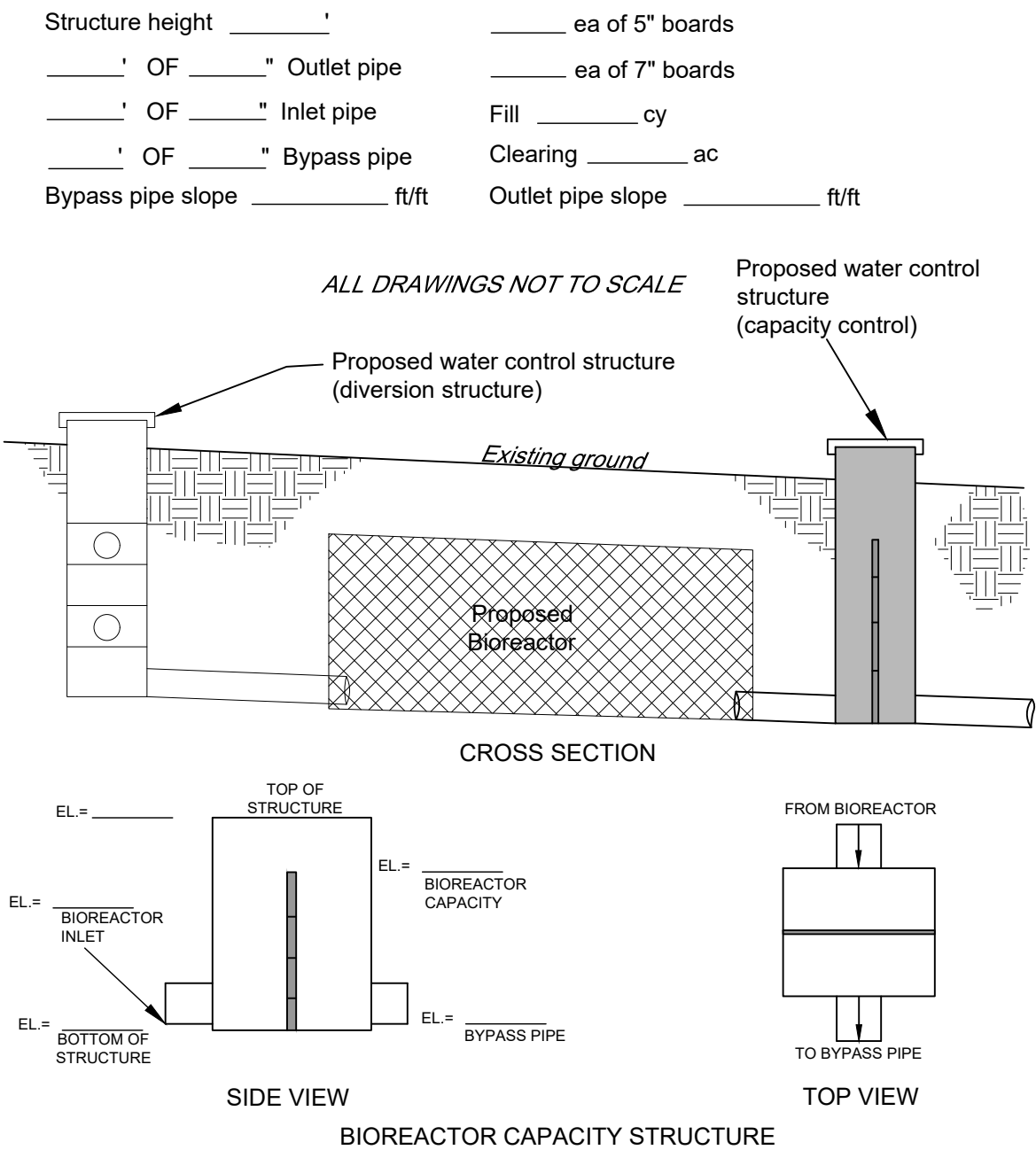
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BIOREACTOR 747 - DETAIL

USER TO CLICK ON BLOCK AND ENTER INFORMATION



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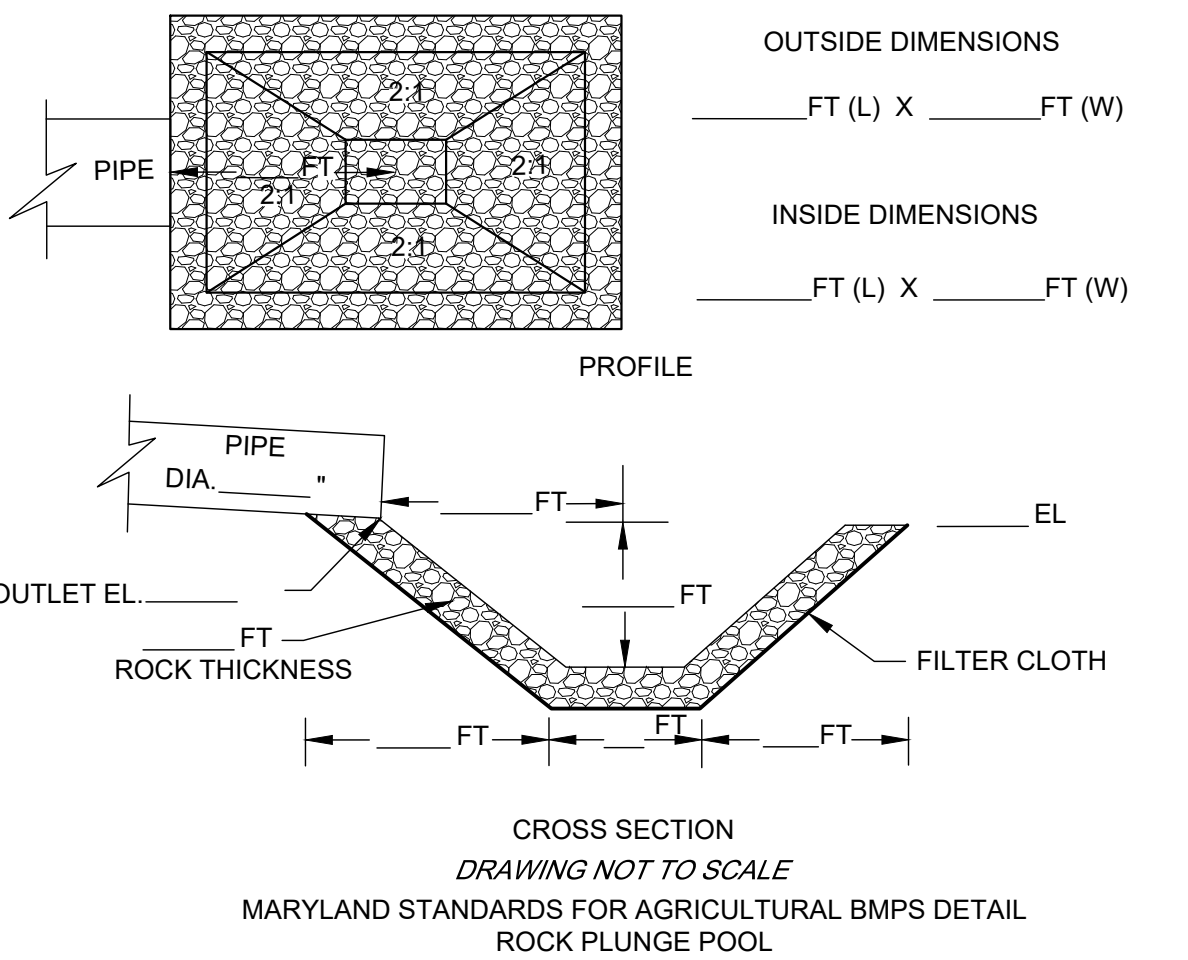
Design Specifications:

Depth of Plunge _____ FT Rock _____" to _____" d50 = _____"

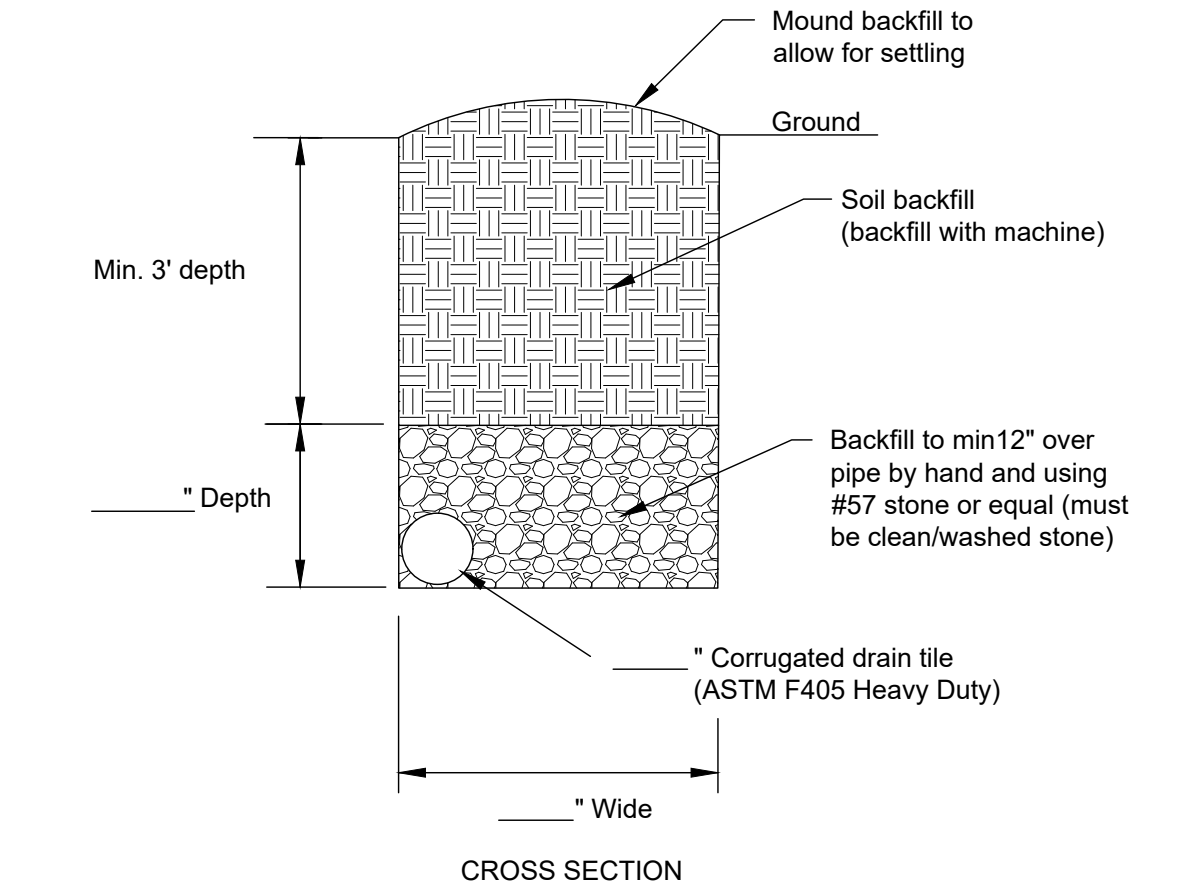
Distance to CL of plunge _____ FT Riprap Thickness _____ FT

Riprap _____ TONS Filter Cloth _____ FT²

Clearing _____ AC



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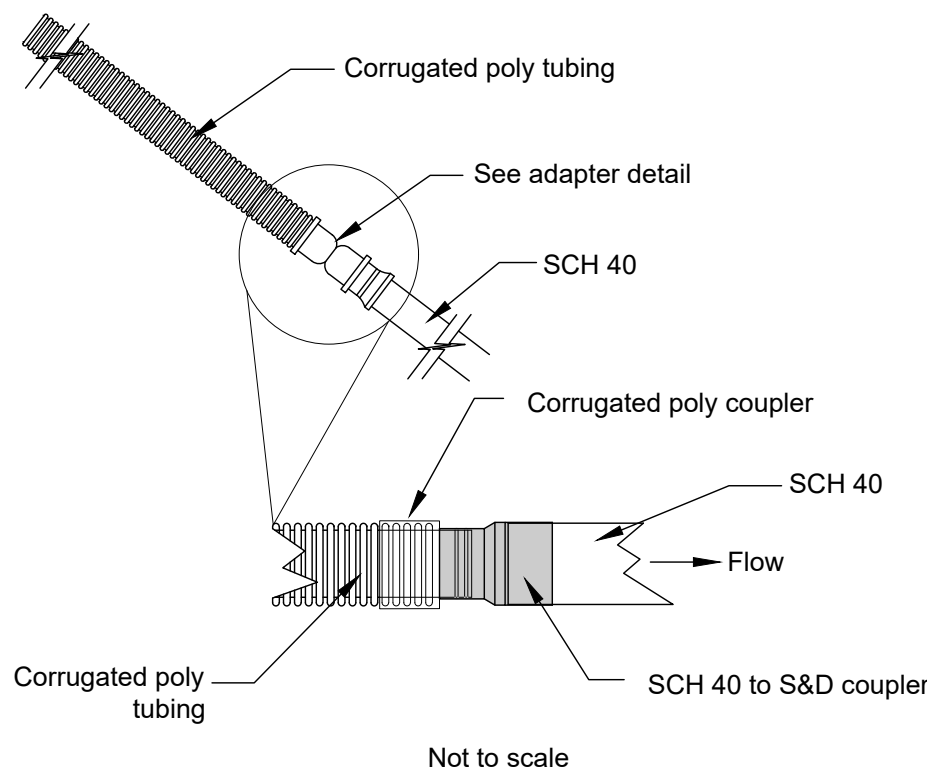


CONSTRUCTION NOTES

Plan, design and construct spring developments in accordance with Federal, State, and Local laws and regulations. When collecting water for potable uses, meet the requirements of the state health department for materials and installation. Permits may be required for the installation of these systems. Contact the Permits Division of the local county government for regulations and permit requirements.

TILE DRAIN DETAIL
Not to scale

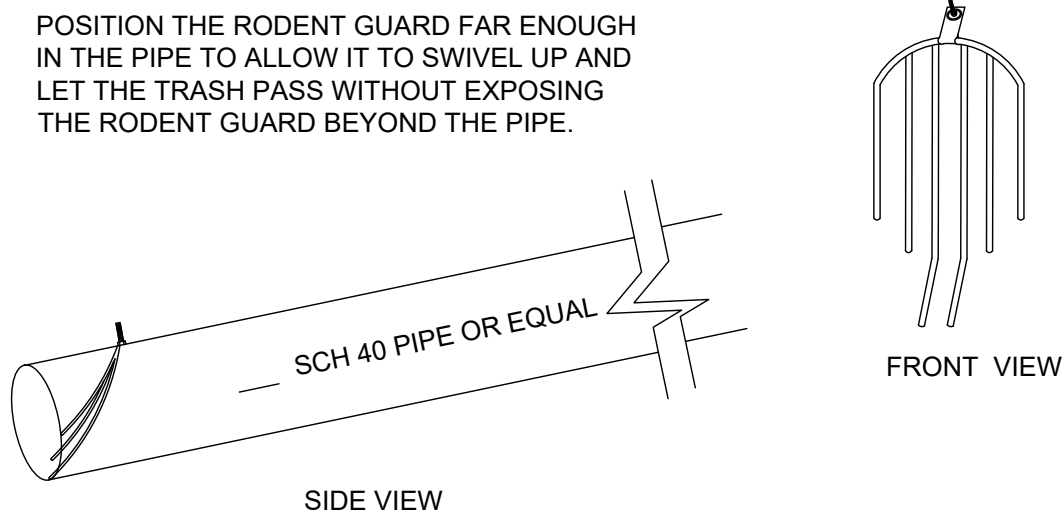
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USER TO CLICK ON BLOCK AND ENTER INFORMATION

Note: Geotextile to meet the following Maryland State Highway Administration requirements:

Maryland Application Class	Type of Geotextile	Grab Strength Lb D 4632	Puncture Strength Lb D 4833	Permeability Sec 1	Apparent Opening Size Max Mm D 4751	Trapezoid Tear Strength Lb D 4533
SE	NONWOVEN	200	80	0.2	0.3	80
	WOVEN	250	90	0.2	0.3	90



NOTE: A HOLE MUST BE DRILLED IN THE TOP OF THE PIPE IN ORDER TO ATTACH THE RODENT GUARD WITHIN.

OUTLET DETAIL
Not to scale

USER TO CLICK ON BLOCK AND ENTER INFORMATION

LANDOWNER - SITE NAME
605 BIOREACTOR
COUNTY Soil Conservation District
JOB CLASS #
TRACT #

United States Department of Agriculture
USDA
Natural Resources Conservation Service

File Name
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Drawing No.
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Sheet 3 of 3

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